PEC UPDATE

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ISSUE HIGHLIGHTS

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Remember Flag Day, June 14, 1997

New National Guidelines for the Diagnosis and Management of Asthma

In February 1997, the National Heart, Lung, and Blood Institute (NHLBI) released new guidelines for the diagnosis and management of asthma.[1] These guidelines update the 1991 National Asthma Education Program Expert Panel Report[2] and the 1995 Global Initiative for Asthma Workshop Report.[3]

Important points in the guideline revision include:

- increased emphasis on the early use of anti-inflammatory medications
- introduction of new categories of asthma severity
- inclusion of long-acting beta-agonist plus low- to medium-dose inhaled corticosteroids for the control of nocturnal symptoms as an alternative to high-dose inhaled corticosteroids
- description of possible approaches to preventing the onset of asthma through the reduction of exposure to environmental allergens and 'second hand' cigarette smoke
- recommendations regarding the identification of specific allergens for patients with asthma
- increased emphasis on asthma patient self-management.

Many of the issues listed above were discussed in the asthma guidelines published in PEC Update 96-11 (16 August 1996). The PEC asthma guideline document was heavily based on the Global Initiative for Asthma Workshop Report.[3] Major differences between the newest NHLBI guidelines and the 1991 NHLBI guidelines that merit special emphasis are listed below:

- skin testing or in-vitro testing is now specifically recommended, at a minimum, for those patients with persistent asthma exposed to perennial indoor allergens
- revision of asthma classifications presented with treatment options (Table 1, page 2)
- the stepwise approach to asthma therapy emphasizes initiating

higher level therapy at the onset to establish prompt control, then stepping down
- estimated clinical comparability presented for inhaled corticosteroid preparations (Table 2, page 3)
- for mild persistent asthma in children 5 years of age or younger, a trial of cromolyn or nedocromil is appropriate initial therapy
- leukotriene modifiers, such as zileuton and zafirlukast, are considered alternative therapy to low-dose inhaled corticosteroids, cromolyn, or nedocromil in mild persistent asthma in patients 12 years of age or older. Further clinical experience is needed to help establish the role of the leukotriene modifiers in the treatment of asthma.

No changes to the current Tri-Service Formulary selections for asthma treatment are recommended at this time due to the development of the National Formulary for DOD (see related article, page 3).

References:

1. National Asthma Education and Prevention Program. Expert Panel Report II: Guidelines for the Diagnosis and Management of Asthma. National Institutes of Health, National Heart, Lung, and Blood Institute, 1997 Feb. Available from: URL: http:// www.nhlbi.nih.gov/nhlbi/lung/asthma/prof/asthhc.htm
2. National Asthma Education and Prevention Program. Expert Panel Report: Guidelines for the Diagnosis and Management of Asthma. Bethesda (MD): National Institutes of Health, National Heart, Lung, and Blood Institute; 1991. Report No. 91-3642.
3. National Heart, Lung, and Blood Institute (NHLBI) and World Health Organization (WHO). Global strategy for asthma management and prevention NHLBI/WHO Workshop Report. Bethesda (MD): National Institutes of Health, NHLBI; 1995 Jan. Report No.95-3659.

Table 1.—Stepwise Approach for Managing Asthma in Adults and Children > 5 years of age[1]

Disease Category	Symptoms	Daily Long-Term Medication
Step 4 - Severe Persistent	• Continual symptoms • Limited physical activity • Frequent exacerbations • Frequent nocturnal symptoms	High-dose inhaled corticosteroid ***AND*** long-acting bronchodilator ***AND*** long-term oral corticosteroid
Step 3 - Moderate Persistent	• Daily symptoms • Exacerbations that affect activity • Exacerbations ≥ 2 times a week (may last days) • Nocturnal symptoms more than once a week	Medium-dose inhaled corticosteroid ***OR*** low/medium-dose inhaled corticosteroid ***AND*** long-acting inhaled ß-agonist (***WITH*** as needed medium/high-dose inhaled corticosteroid ***AND*** long-acting bronchodilator)
Step 2 - Mild Persistent	• Symptoms > 2 times a week but < 1 time a day • Exacerbations may affect activity • Nocturnal symptoms > 2 times a month	Low-dose inhaled corticosteroid ***OR*** mast-cell stabilizer ***OR*** theophylline ***OR*** leukotriene antagonist
Step 1 - Mild Intermittent	• Symptoms ≤ 2 times a week • Asymptomatic and normal peak expiratory flow between exacerbations • Brief exacerbations (few hours to few days)	No daily medication needed

Table 2.—Estimated Comparative Daily Dosages for Inhaled Corticosteroids[1]

Drug	Low Dose	Medium Dose	High Dose
ADULTS			
Beclomethasone dipropionate 42 mcg/puff 84 mcg/puff	168 - 504 mcg (4-12 puffs—42 mcg) (2-6 puffs—84 mcg)	504 - 840 mcg (12-20 puffs—42 mcg) (6-10 puffs—84 mcg)	> 840 mcg (> 20 puffs—42 mcg) (> 10 puffs—84 mcg)
Budesonide Turbuhaler 200 mcg/dose	200 - 400 mcg (1-2 inhalations)	400 - 600 mcg (2-3 inhalations)	> 600 mcg (> 3 inhalations)
Flunisolide 250 mcg/puff	500 - 1000 mcg (2-4 puffs)	1000 - 2000 mcg (4-8 puffs)	> 2000 mcg (> 8 puffs)
Fluticasone MDI: 44, 110, 220 mcg/puff DPI: 50, 100, 250 mcg/dose	88 - 264 mcg (2-6 puffs—44 mcg) **or** (2 puffs—110 mcg) (2-6 inhalations—50 mcg)	264 - 660 mcg (2-6 puffs—110 mcg) (3-6 inhalations—100 mcg)	> 660 mcg (> 6 puffs—110 mcg) **or** (> 3 puffs—220 mcg) (> 6 inhalations—100 mcg)
Triamcinolone acetonide 100 mcg/puff	400 - 1000 mcg (4-10 puffs)	1000 - 2000 mcg (10-20 puffs)	> 2000 mcg (> 20 puffs)
CHILDREN			
Beclomethasone dipropionate 42 mcg/puff 84 mcg/puff	84 - 336 mcg (2-8 puffs—42 mcg)	336 - 672 mcg (8-16 puffs—42 mcg)	> 672 mcg (> 16 puffs—42 mcg)
Budesonide Turbuhaler 200 mcg/dose	100 - 200 mcg	200 - 400 mcg (1-2 inhalations)	> 400 mcg (> 2 inhalations)
Flunisolide 250 mcg/puff	500 - 750 mcg (2-3 puffs)	1000 - 1250 mcg (4-5 puffs)	> 1250 mcg (> 5 puffs)
Fluticasone MDI: 44, 110, 220 mcg/puff DPI: 50, 100, 250 mcg/dose	88 - 176 mcg (2-4 puffs—44 mcg) (2-4 inhalations—50 mcg)	176 - 440 mcg (4-10 puffs—44 mcg) **or** (2-4 puffs—110 mcg) (2-4 inhalations—100 mcg)	> 440 mcg (> 4 puffs—110 mcg) (> 4 inhalations—100 mcg)
Triamcinolone acetonide 100 mcg/puff	400 - 800 mcg (4-8 puffs)	800 - 1200 mcg (8-12 puffs)	> 1200 mcg (> 12 puffs)

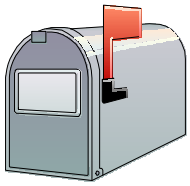
NOTES:

- ***The most important determinant of appropriate dosing is the clinician's judgment of the patient's response to therapy.*** The patient's response must be monitored by several clinical parameters and the medication dose adjusted accordingly. Once control of asthma is achieved, the dose of medication should be carefully titrated to the minimum dose required to maintain control to reduce the potential for adverse effects.
- Metered-dose inhaler (MDI) dosages are expressed as the actuater dose (the amount of the drug leaving the actuator and delivered to the patient). Dry powder inhaler (DPI) doses (e.g., Turbuhaler) are expressed as the amount of drug in the inhaler following activation.
- Some dosages may be outside package labeling. For explanation of the rational used for the comparative dosages, see the NHLBI guidelines.[1]

National Formulary Development

The Assistant Secretary of Defense recently tasked the Pharmacoeconomic Center with developing a National Formulary (NF), which would replace the current Tri-Service Formulary (TSF). The intent of the NF is to standardize military medical treatment facility (MTF) formularies for ambulatory care. The scope of the NF and relevant policies are currently in development. The current TSF and the top 200 drugs based on prescription volume from 13 regional or local formularies, which represent 94 MTFs, were used in the development of the NF. Additionally, prime vendor purchases for the first 4 months of FY97, the Veterans' Affairs Department National Formulary, and the National Mail Order Pharmacy formulary were reviewed. A draft of the initial NF has been submitted to Health Affairs. More specific guidance regarding implementation of the NF will be forthcoming.

Request for Updated Addresses



To facilitate mailing of the PEC Update and all other correspondence to military installations, the PEC must have current street addresses and suite or room numbers. To ensure continued delivery of the PEC Update, please verify your mailing address by contacting Carol Scott (Scottie) at the PEC at (210) 295-1271 or DSN 421-1271. Alternatively, you may e-mail your current street address and suite/room number to:

Carol_Scott@smtplink.hcssa.amedd.army.mil

In the Literature..... Treatment Guidelines

The following guidelines are provided for information purposes only.

American Academy of Pediatrics

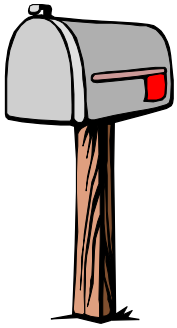
American Academy of Pediatrics, Committee on Genetics. Health supervision for children with sickle cell diseases and their families. Pediatrics 1996;98:467-72.

Centers for Disease Control and Prevention

Centers for Disease Control and Prevention. Guidelines for prevention of nosocomial pneumonia. MMWR 1997;46(RR-1):1-79.

Centers for Disease Control and Prevention. Prevention of pneumococcal disease: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 1997;46(RR-8):1-24.

PEC Change of Address



The Pharmacoeconomic Center (PEC) has moved to a new location on Fort Sam Houston. Our new address, as listed below, is effective immediately:

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The main office number has changed to (210) 295-1271 or DSN 421-1271. Fax number and individual staff phone numbers are listed in the table at the bottom of this page. All phone number changes are effective immediately.

Pharmacoeconomic Center Staff Directory and Phone Numbers

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